

Notice of Allowability	Application No.	Applicant(s)	
	10/671,273	YEN, CHIN-HSIEN	
	Examiner	Art Unit	
	Terry L. Englund	2816	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--
 All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to Amdt Jul 8, 2005.
2. ☒ The allowed claim(s) is/are 1-7.
3. ☒ The drawings filed on 01 February 2005 are accepted by the Examiner.
4. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☒ All b) ☐ Some* c) ☐ None of the:
 1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

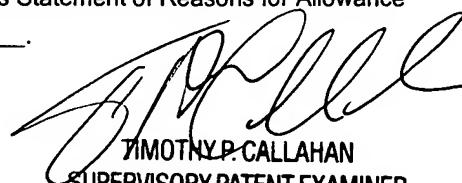
* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|---|---|
| <ol style="list-style-type: none"> 1. <input type="checkbox"/> Notice of References Cited (PTO-892) 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) 3. <input type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date _____ 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit
of Biological Material | <ol style="list-style-type: none"> 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) 6. <input type="checkbox"/> Interview Summary (PTO-413),
Paper No./Mail Date _____ 7. <input checked="" type="checkbox"/> Examiner's Amendment/Comment 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance 9. <input type="checkbox"/> Other _____ |
|---|---|


 TIMOTHY P. CALLAHAN
 SUPERVISORY PATENT EXAMINER
 TECHNOLOGY CENTER 2800

EXAMINER'S AMENDMENT

An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to the applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

The application has been amended as follows:

(Amended) Paragraph 0007, line 9: changed "transistors" to --transistor--;

line 11: changed "142a" to --134a--, "transistors" to --transistor--, and

"PNOS" to --PMOS--;

line 15: changed "PNOS" to --PMOS--;

Claim 5, line 11: changed first occurrence of "first" to --second--;

line 12: changed "first" to --second--;

Claim 7, line 21: changed "third" to --fourth--;

line 22: changed "third" to --fourth--;

line 23: changed "third" to --fourth--; and

line 24: changed "third" to --fourth--.

The changes to the applicant's amended paragraph 0007 corrected several typos and/or other inadvertent type oversights related to the newly added sentences. Although the applicant's changes to lines 11-12 of claim 5 corresponded to the examiner's suggestions, page 4 of the previous Office Action inadvertently indicated "fourth" should be changed to --first--, wherein it should have indicated the change to --second-- be made on those two lines. [For example, the applicant's own Fig. 4 shows the second NMOS corresponding to 418, and one of ordinary skill

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in the art would recognize its source is connected to the drain of first NMOS 416, and its gate receives clocking signal CK, wherein the gate of first NMOS 416 is connected to input voltage V_{IN} .] The changes to claim 7 address/correct other oversight type problems, wherein the previous version of the claim identified “the eighth PMOS transistor” on each of lines 20-23, and the previous Office Action had suggested that each occurrence of “eighth” be changed to “fourth”. However, the previous claim’s “eighth” was inadvertently identified as “seventh” on lines 21-24 of the Jul 8th version of claim 7, wherein that “seventh” was now deleted (lined through and bracketed) and replaced with “third” (as the previous Office Action had suggested for “seventh” on lines 13-17 of the claim). Therefore, the Examiner’s Amendment to claim 7 now correctly identifies the proper transistors/connections, and these changes are supported by the applicant’s own figures. [Using the applicant’s own Fig. 5 as an example, the fourth (previously identified as the “eighth”) PMOS transistor corresponds to 568, wherein its source receives first output voltage 550, its drain connects to final output voltage terminal 590, its substrate connects to the substrate of second (previously identified as the “sixth”) PMOS transistor 564, and its gate receives second output voltage 552. The third (previously identified as the “seventh”) PMOS transistor corresponds to 566, and it would have incorrect source and substrate connections if lines 21-24 of claim 7 were not corrected.]

Since the above changes address/correct minor inadvertent type oversights, one of ordinary skill in the art would understand none of the changes affect the scope of the claims.

Response to Amendment

The amendment submitted on Jul 8, 2005 has been reviewed and considered with the following results:

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Amended paragraphs 0007, 0027, and 0040 overcame all the objections to the drawings (as described on page 3 of the previous Office Action) by identifying the reference characters that are shown within the figures, but that had been previously left out of the description. Therefore, those drawing objections have been withdrawn, and the drawings submitted on Feb 1, 2005 have now been approved. Although amended paragraph 0007 had one inadvertent error with respect to one reference designator, and several inadvertent typos, these were all corrected by the Examiner's Amendment described above.

Amended paragraphs 0001 and 0042 overcame their respective objections, which have also been withdrawn.

The objections of claims 2-7, and the rejections of claims 2-5 and 7 under 35 U.S.C. 112, as described on pages 4-6 of the previous Office Action, were addressed by the amended claims. Although all of those objections and rejections have now been withdrawn, amended claims 5 and 7 created new concerns related to oversights by the examiner, and/or the applicant. In claim 5, the examiner's suggestion should have indicated "fourth" on lines 11 and 12 of claim 5 should have been changed to --second-- instead of --first--; and the PMOS changes from "seventh" to --third-- on each of lines 21-24 should have actually been changing eighth to --fourth-- on those lines. These concerns were all addressed/corrected by the Examiner's Amendment described above.

Therefore, there is no known objection or rejection remaining within the present application.

Reasons for Allowance

The following is an examiner's statement of reasons for allowance:

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None of the prior art references reviewed and considered shows or discloses a charge pump comprising the four distinct units (i.e. first/second control signal generation units, and first/second output voltage generation units), first/second capacitors, and the two clocking signals, with all of their respective relationships as recited within independent claim 1 (upon which claims 2-7 depend). [For example, all four generation units receive the input voltage; the second control signal generation unit and the first capacitor both receive the clocking signal; the first control signal generation unit and the second capacitor both receive the phase inverted signal; the second terminal of the first capacitor, connected to the first output terminal of the first output voltage generation unit, provides a first output voltage; and the second terminal of the second capacitor, connected to the second output terminal of the second output voltage generation unit, provides the second output voltage.] Since there is no motivation to modify or combine any prior art reference(s) to ensure a charge pump type circuit meets all those specific limitations (with respect to the individual elements, connections, and signals), the claims are deemed patentably distinct over the prior art of record.

Claims 1-7 are allowed.

Any comments considered necessary by the applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Any inquiry concerning this communication, or previous communications, from the examiner should be directed to Terry L. Englund whose telephone number is (571) 272-1743. The examiner can normally be reached Monday-Friday from 7 AM to 3 PM.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tim Callahan, can be reached on (571) 272-1740.

The new central official fax number is (571) 273-8300.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (571) 272-1562.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Terry L. Englund

14 July 2005

Approved 7/14/05
TLE



Annotated Marked-up drawing

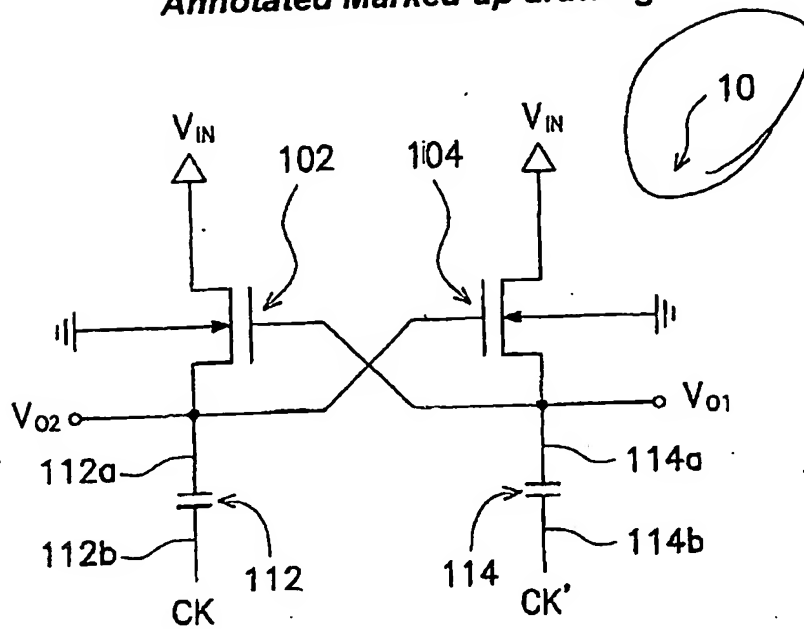
Approved 7.14.05
TLE

FIG. 1A (PRIOR ART)

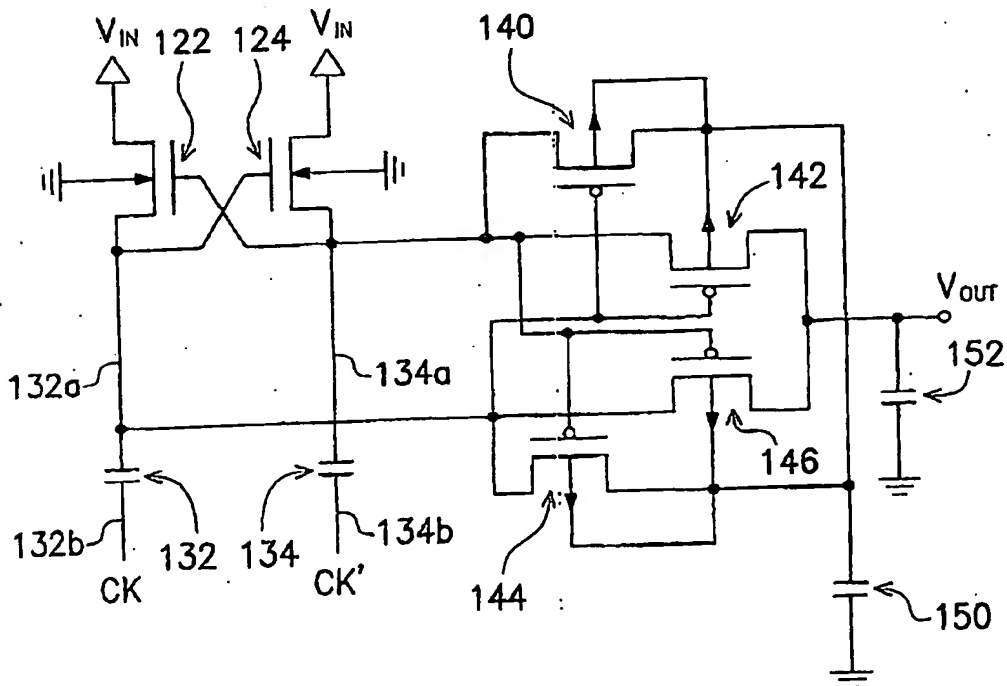


FIG. 1B (PRIOR ART)